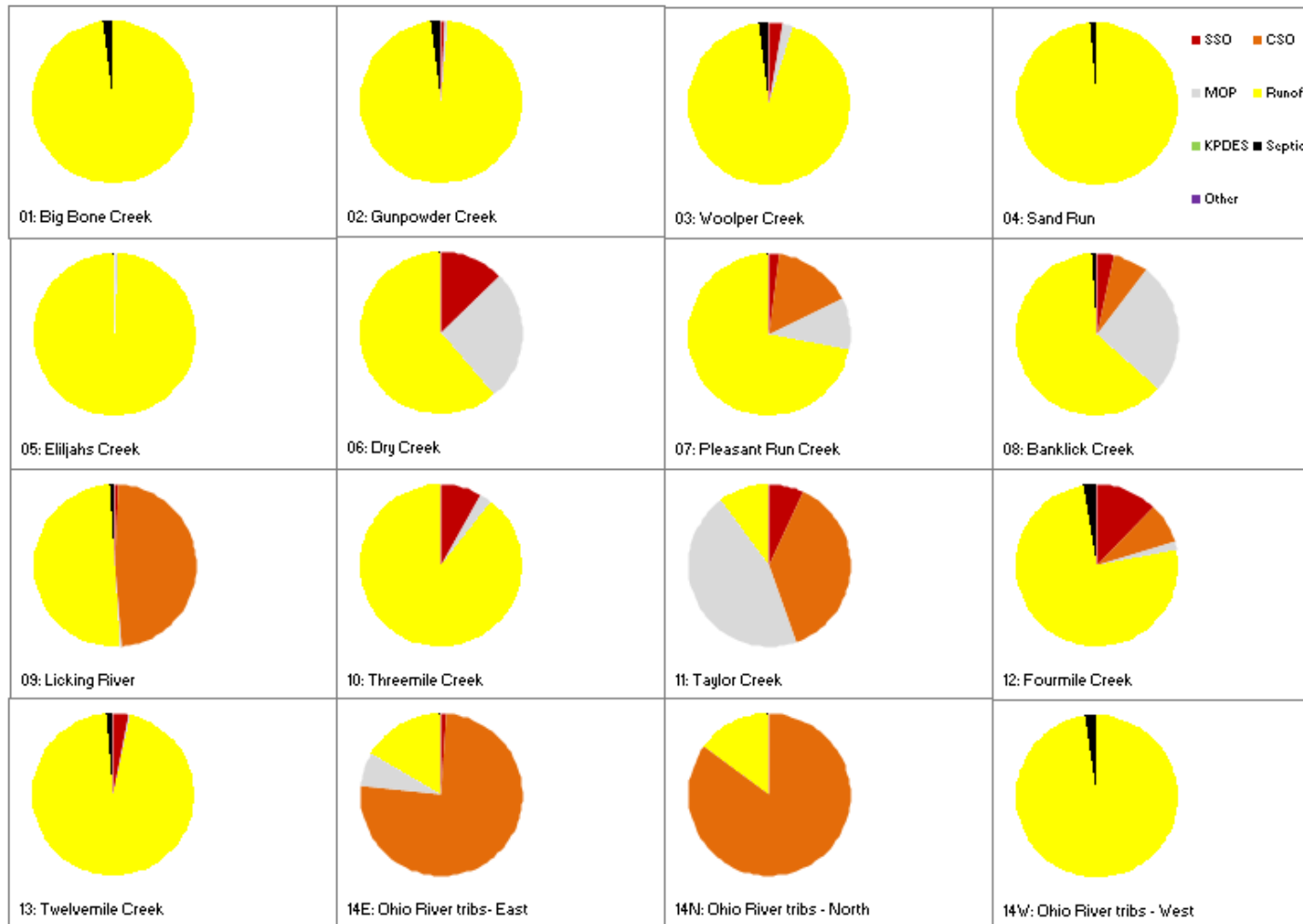


WAT! – Preliminary Results

Watershed Contributions By Source
Fecal Coliforms, Current Conditions

Controls



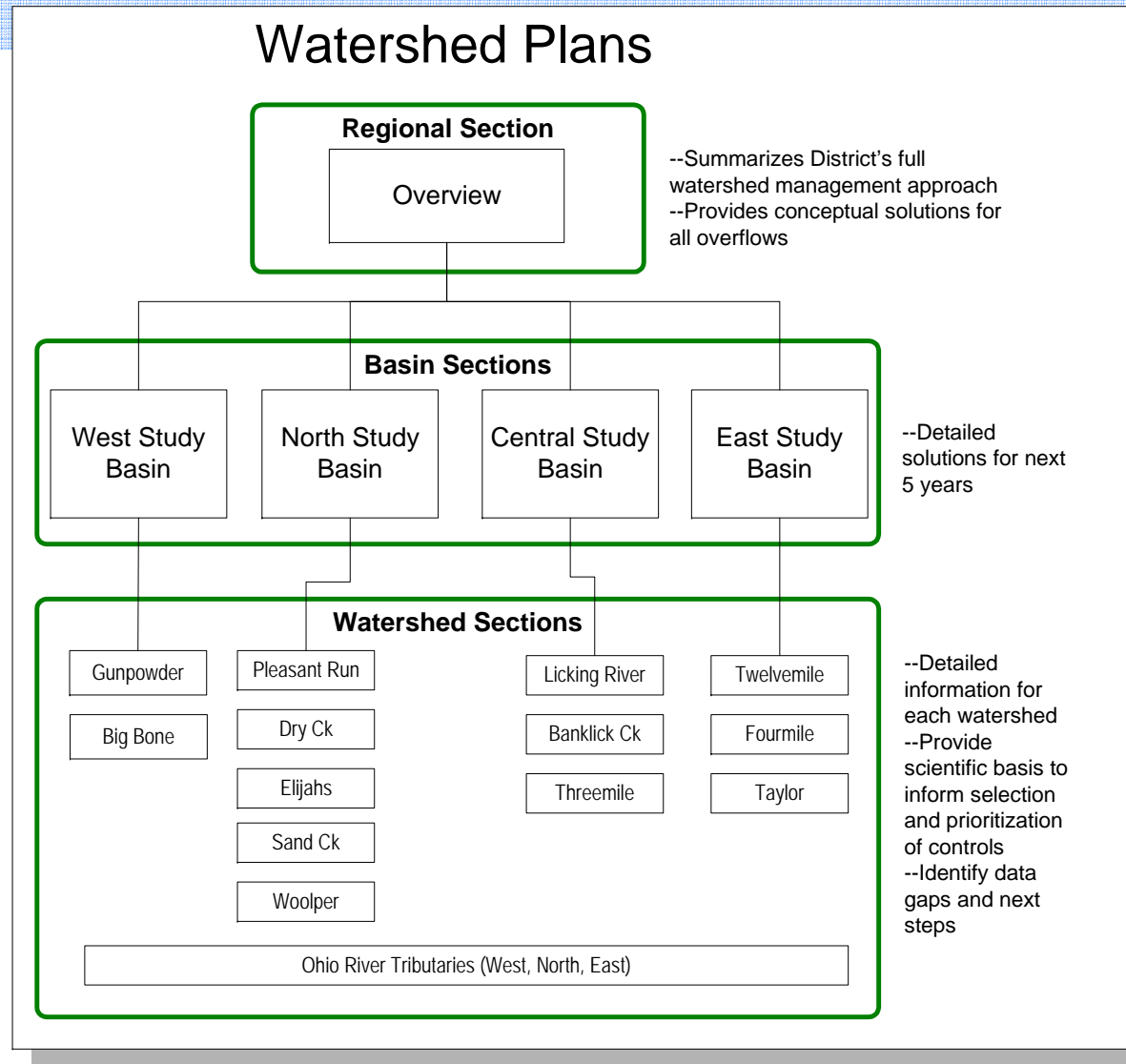
[1] WAT is still under development, so all results presented here are for illustrative purposes. The results are subject to change and should therefore not be relied on or considered definitive. 21

SD1 Watershed Management

- SD1 Approach
 - Build partnerships
 - Assemble and assess data
 - Implement highest priority controls first
 - Assess effectiveness
 - Identify additional levels of control, if needed

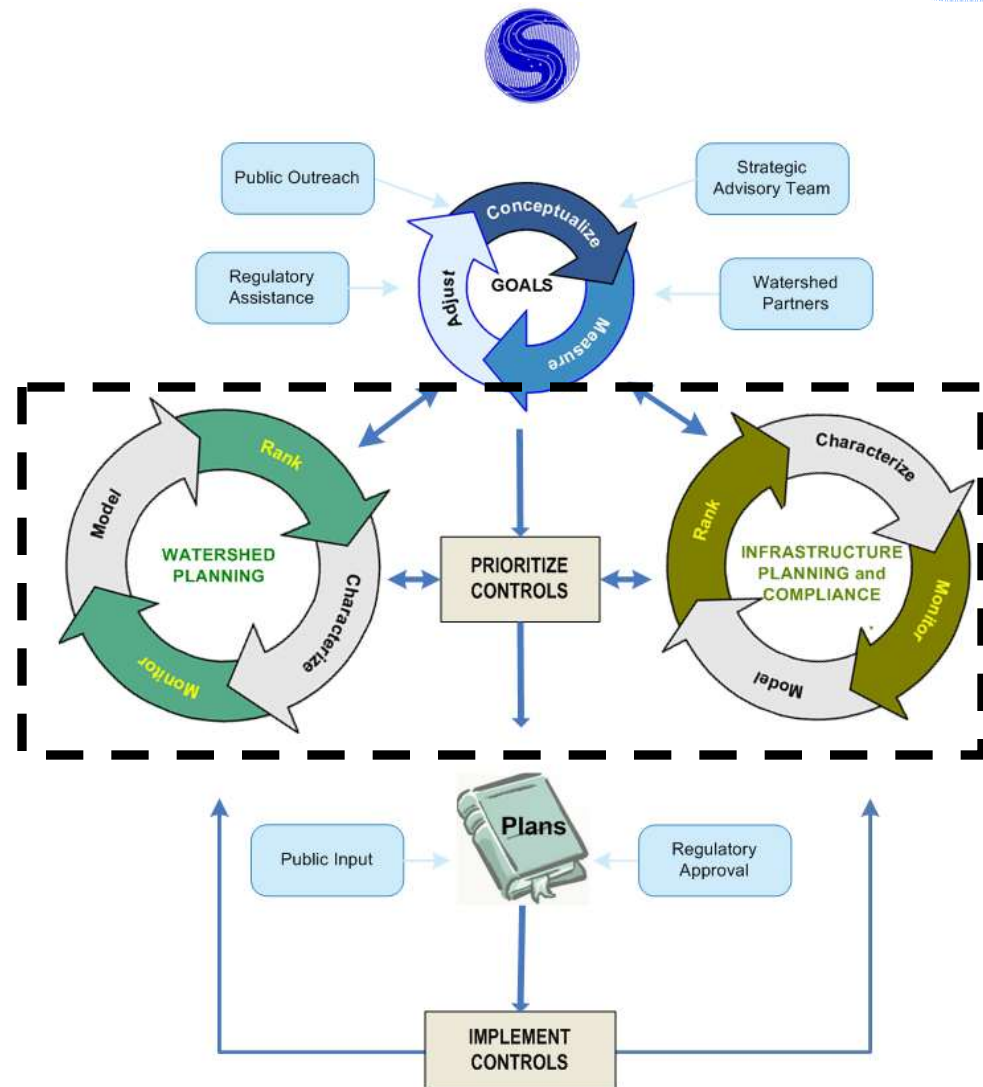


Watershed Plan Report Structure

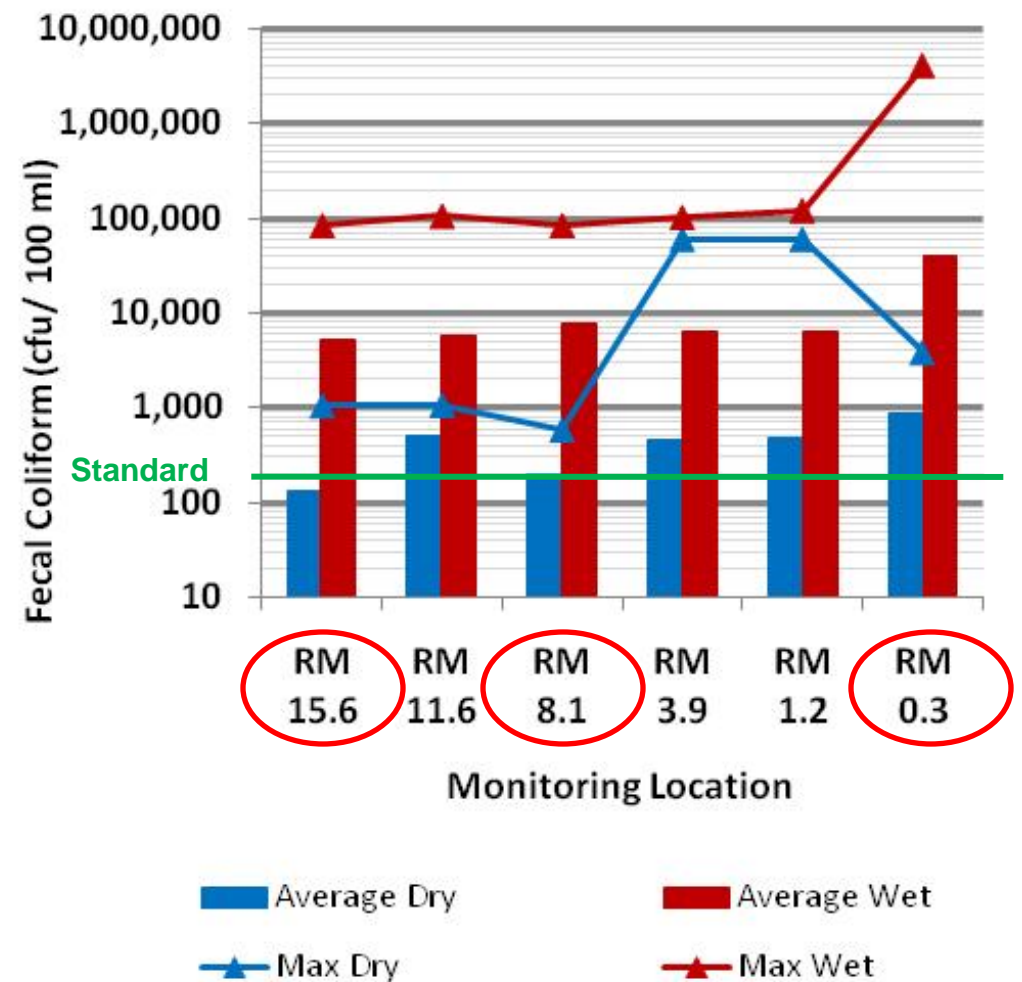
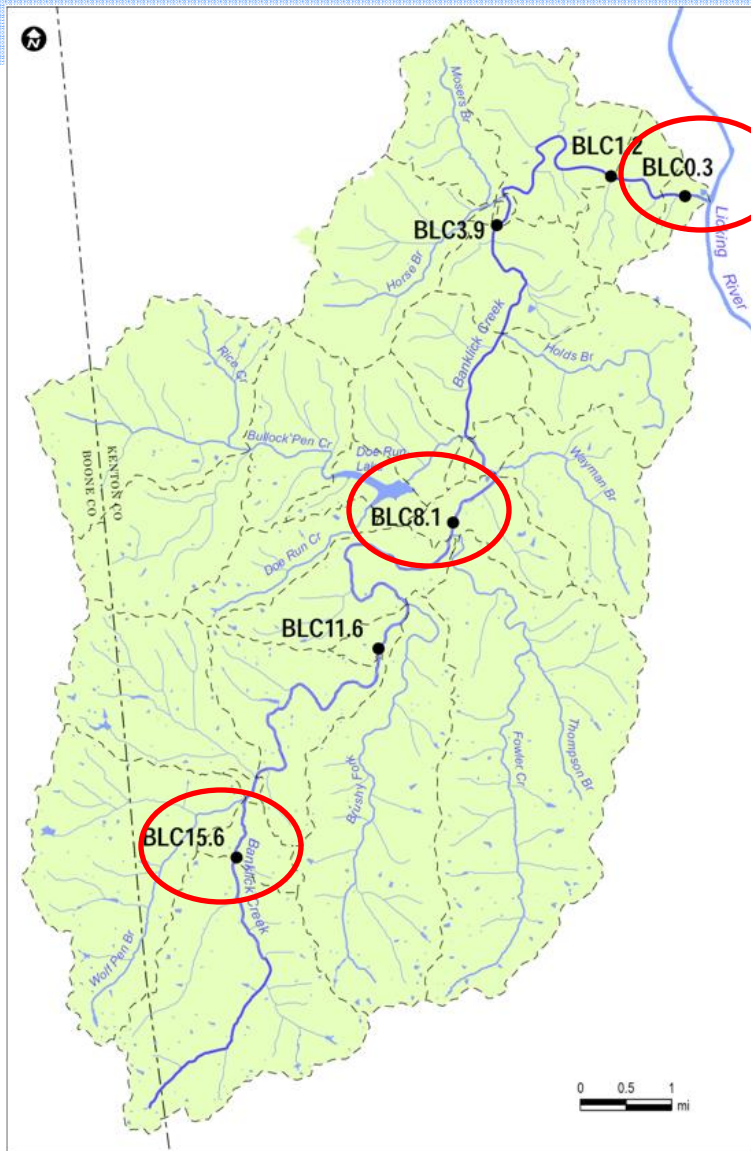


Purpose of the Banklick Pilot Project

- Test drive the Watershed Framework
- Prepare for system-wide analysis
- Identify challenges for Watershed Plans
 - Future development
 - Performance of controls
 - Measurement of benefits



Fecal Bacteria in Banklick Creek Do Not Meet Standards During Dry and Wet Weather



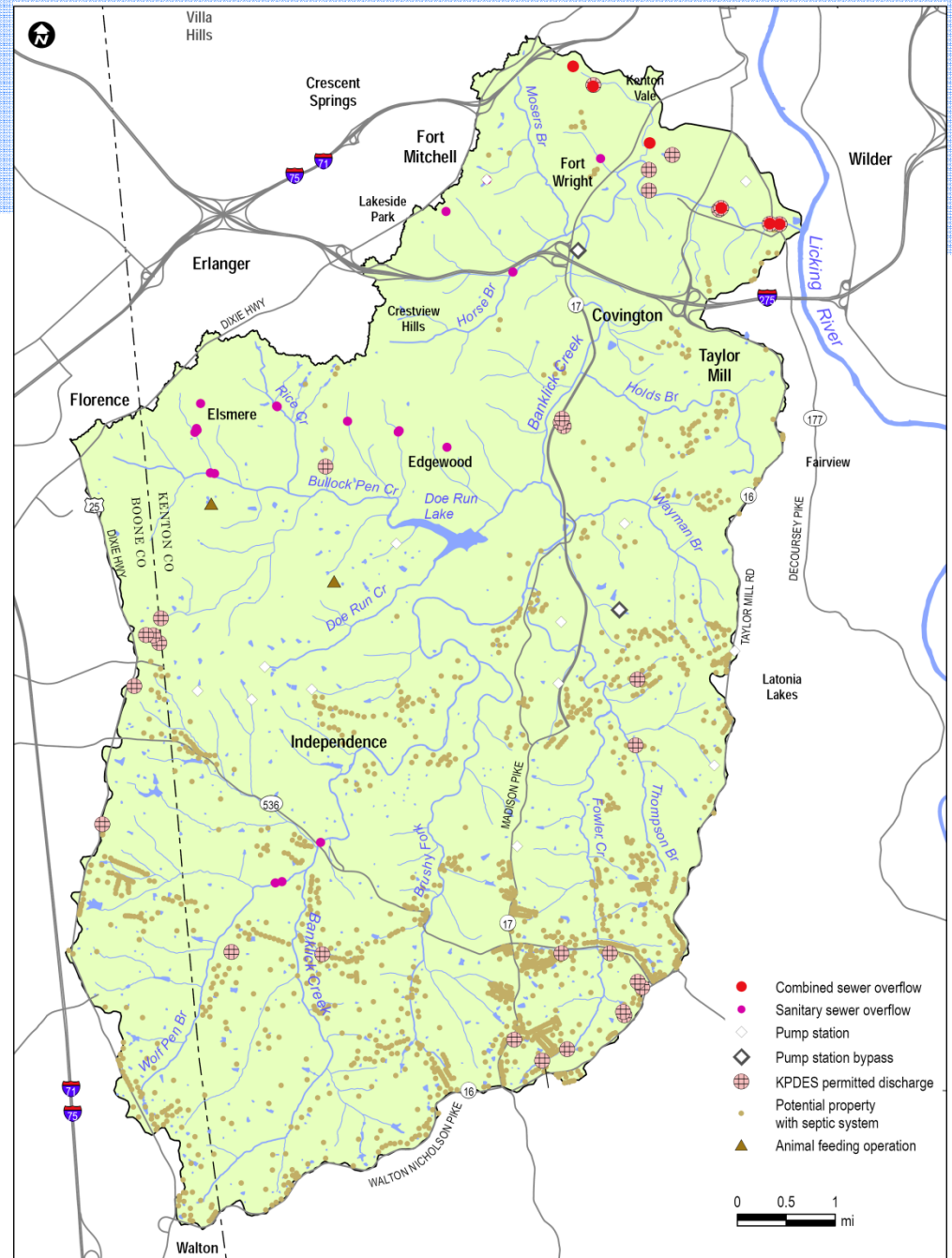
Multiple Sources

Wet Weather

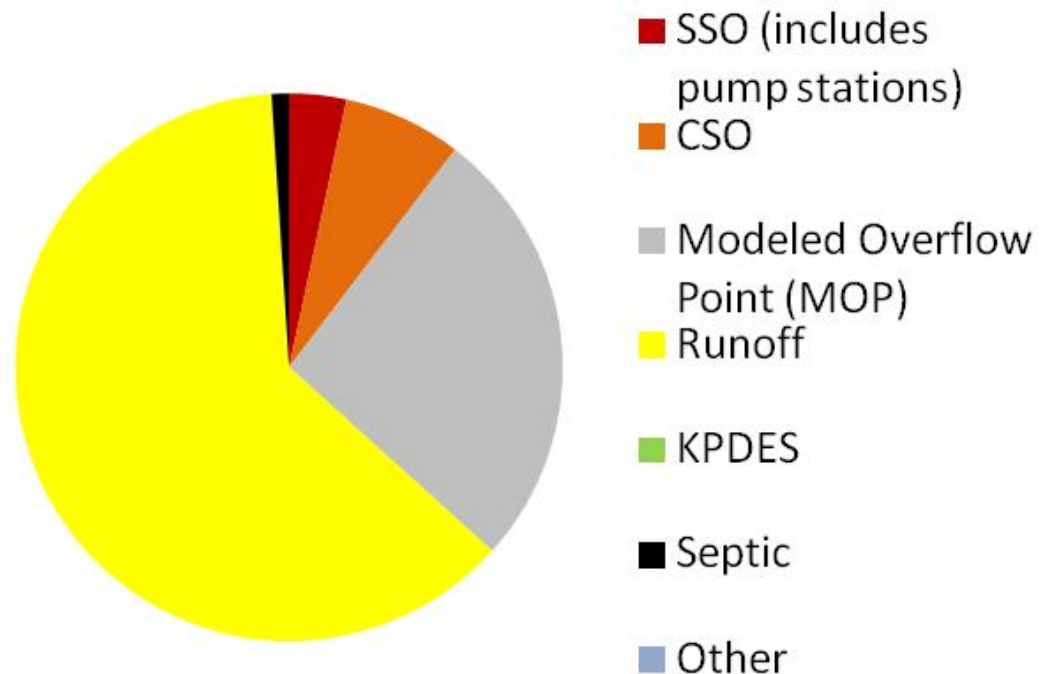
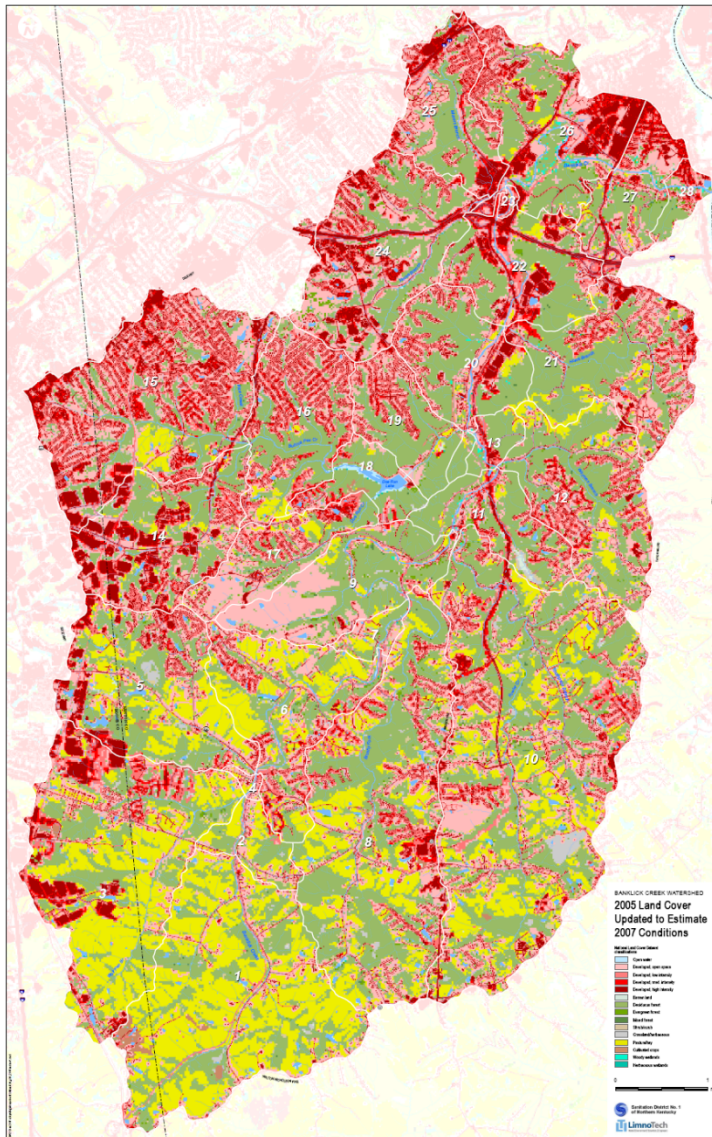
- 6 CSOs
- 19 SSOs
- 2 Pump station bypasses
- Runoff, including 2,098 storm water pipe outfalls

Dry Weather

- 21 KPDES dischargers
- Septic systems / straight pipes
- 2 animal feeding operations
- Wildlife
- Groundwater



Current Land Cover and Bacteria Load Estimates (Annual)



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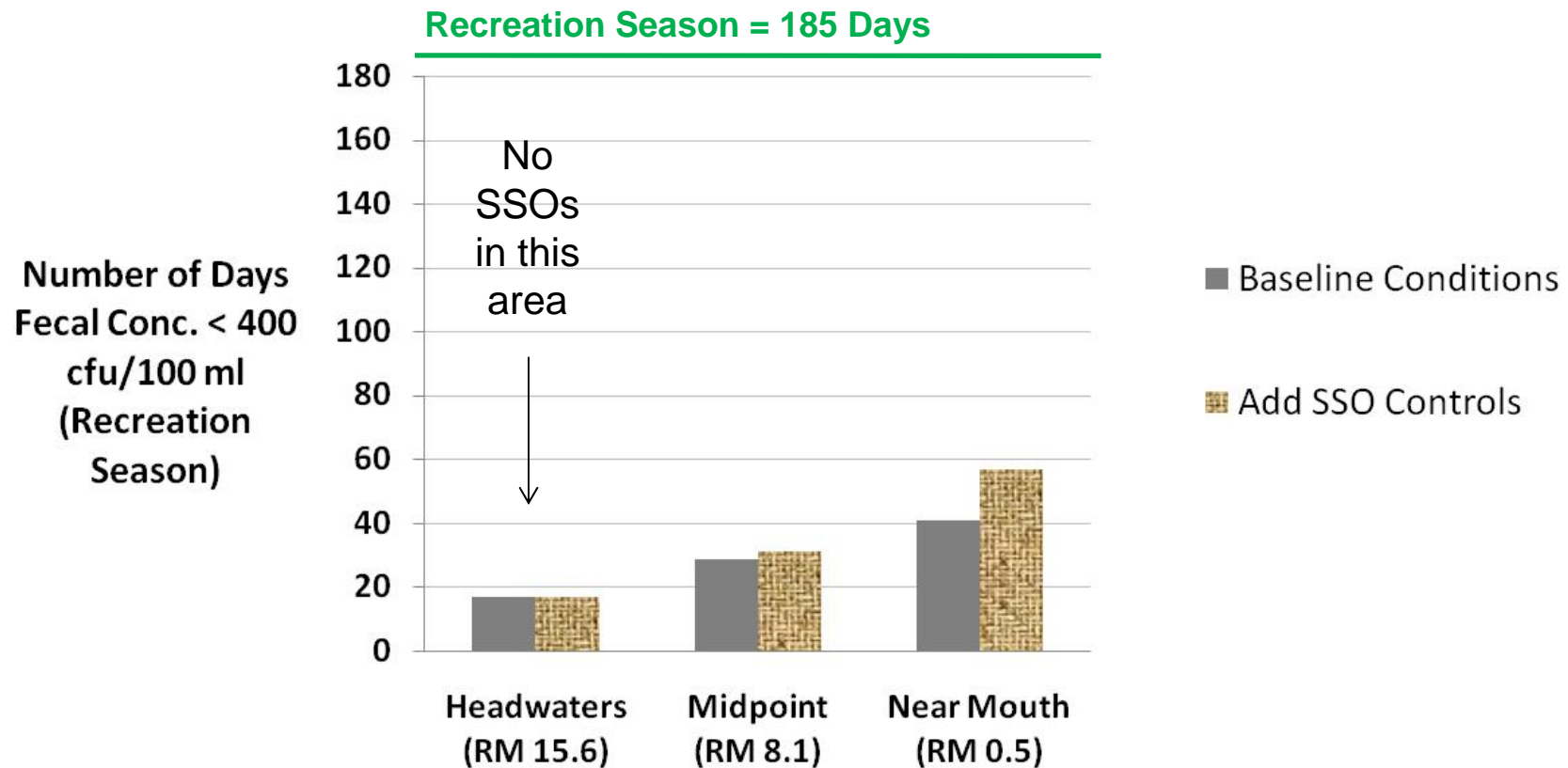
Three Types of Source Controls Evaluated

- **Storage to reduce CSOs**
 - Goal: **6**, 4, 1, 0 overflows per typical year
- **Storage to eliminate SSO (Lakeview Pump Station) by 2013**
 - Goal: **0** overflows per typical year
- **Mix of watershed controls**
 - Includes some “green” techniques; more in-depth analysis of green infrastructure is planned
 - Three levels: **Moderate**, Aggressive, Extreme
 - Existing development = 14,000 acres (retrofit)
 - New development = 11,000 acres (ordinances)

Results Overview (Preliminary)

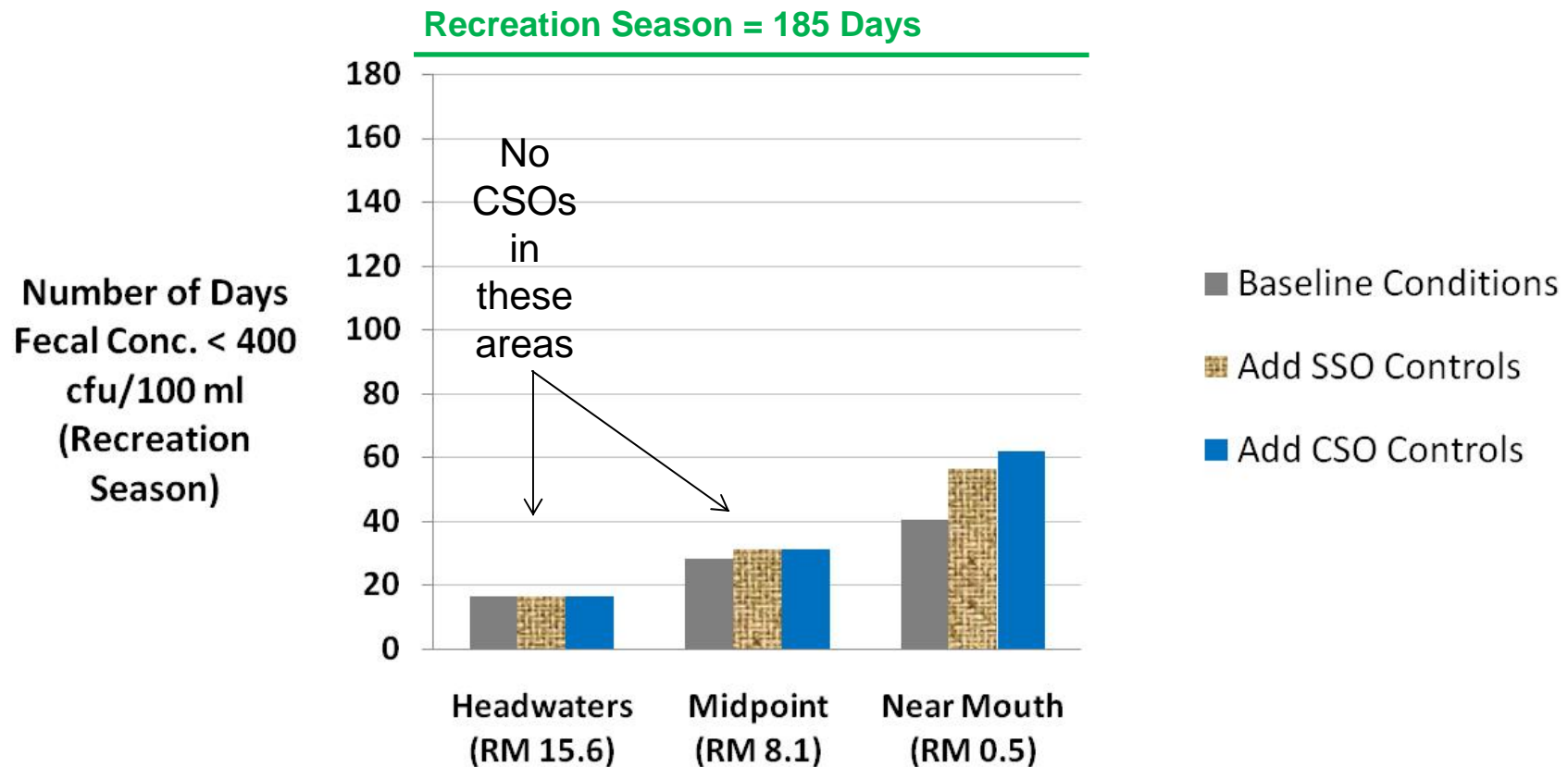
- Analysis based on future (2030) conditions
- Dry weather sources
 - Prevent standards from being met
 - Requires more investigation
 - Cost of controlling has not been estimated
- Watershed controls
 - Current mix of BMPs important, particularly for new development
 - Uncertainty in effectiveness and cost estimates
- Gray Infrastructure
 - Preliminary estimates only
 - Diminishing returns with increasing levels of control
- Different portions of Banklick Creek will benefit from different controls

Benefit of SSO Source Controls



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Benefit of SSO & CSO Source Controls

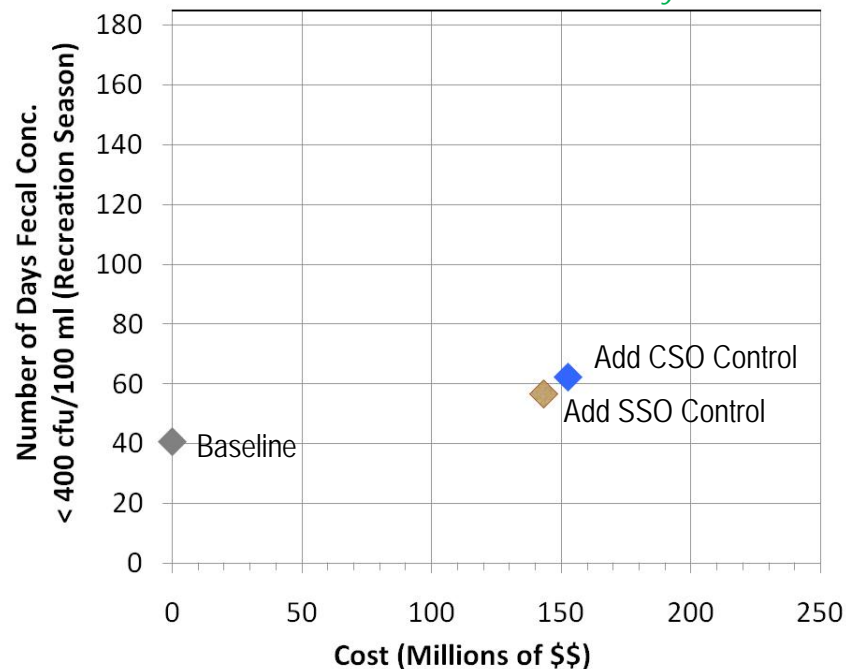


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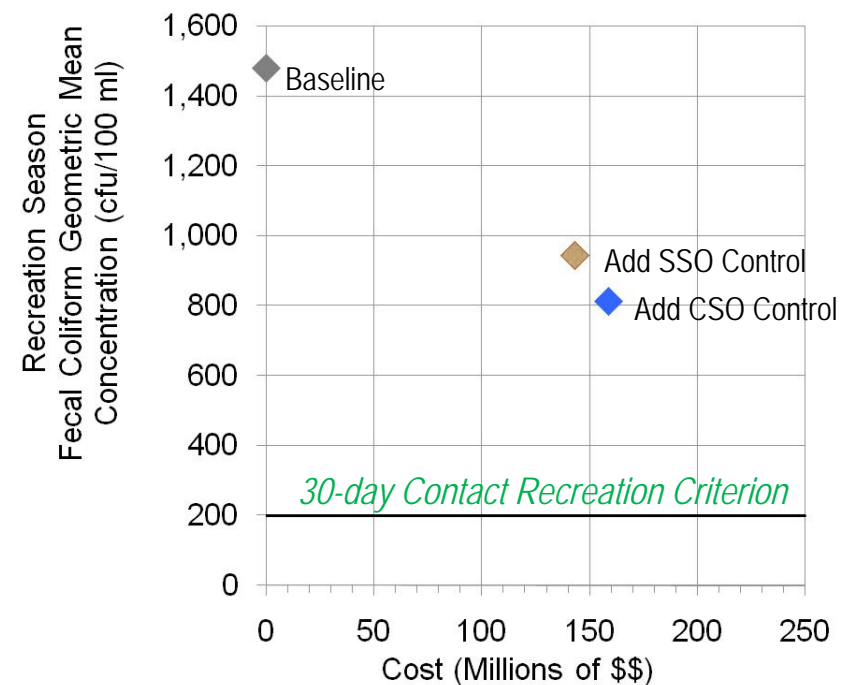
Cost – Benefit of Source Controls Near Mouth of Banklick Creek: Traditional Approach

Days of Recreation

Recreation Season = 185 Days



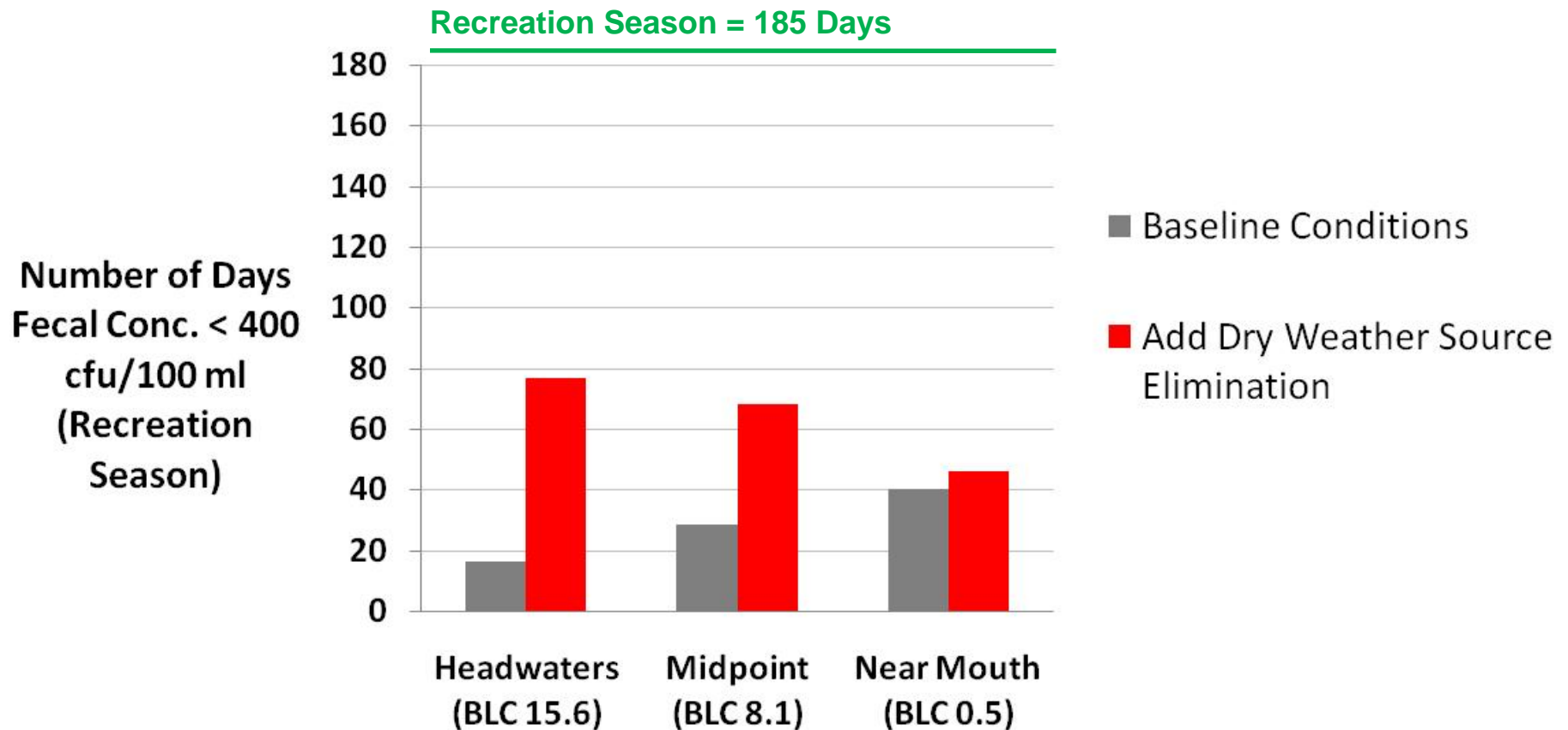
Average Fecal Concentration (Geometric Mean)



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[2] Cost and benefit estimates are very preliminary and subject to change. This information is for illustration purposes only.

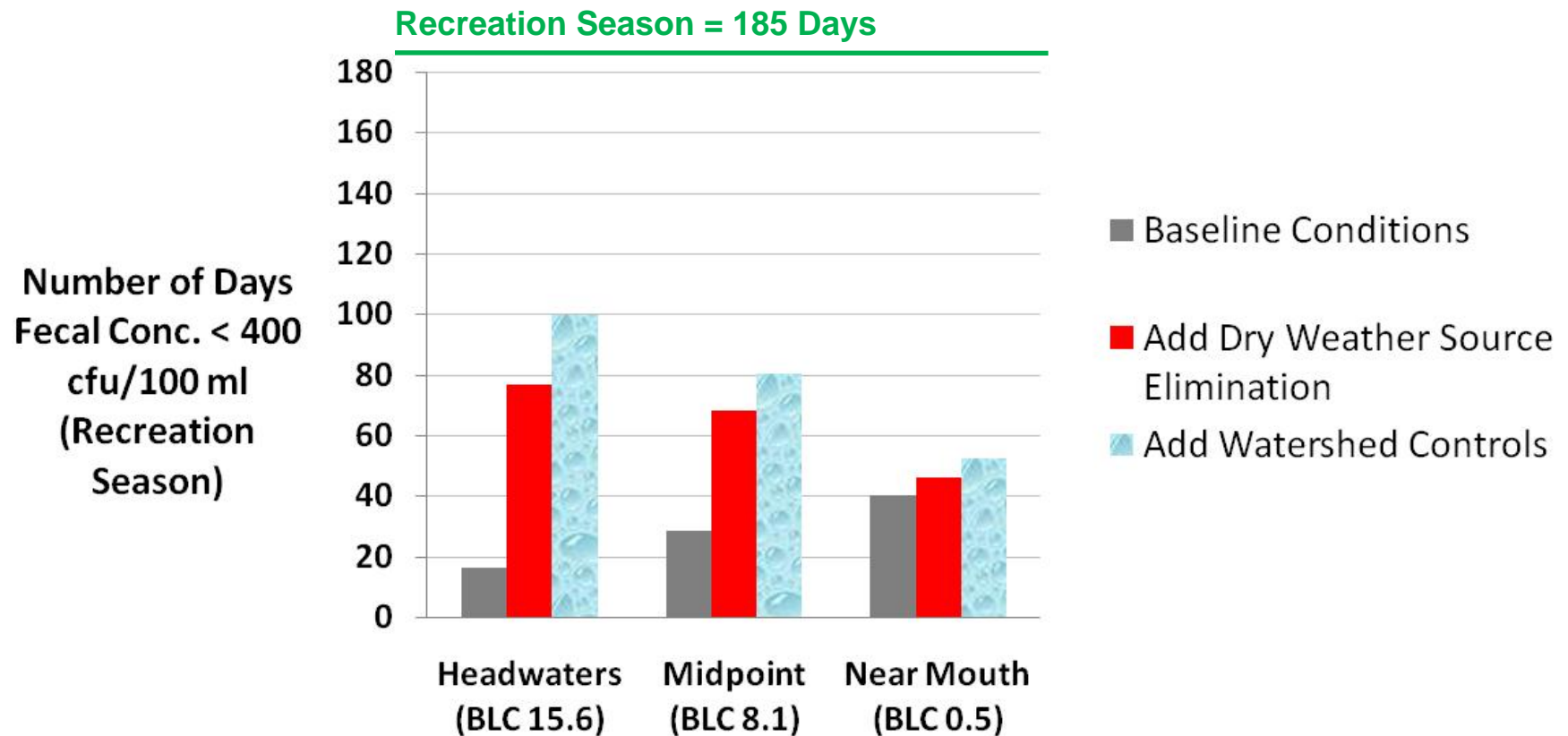
Watershed Approach: Benefit of Dry Weather Source Elimination



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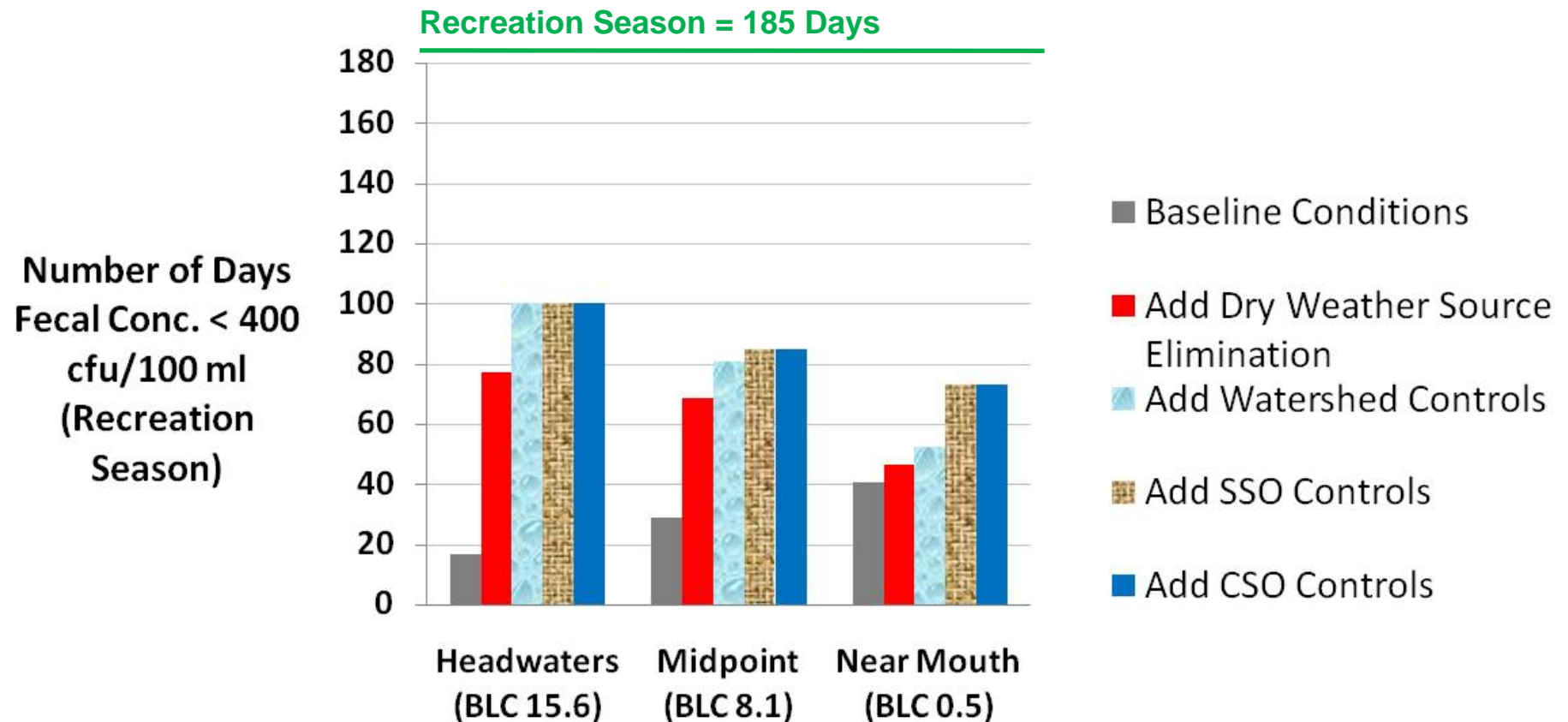
[2] Dry weather sources are not specific and require additional investigation.

Watershed Approach: Benefit of Dry Weather Source Elimination & Watershed Controls



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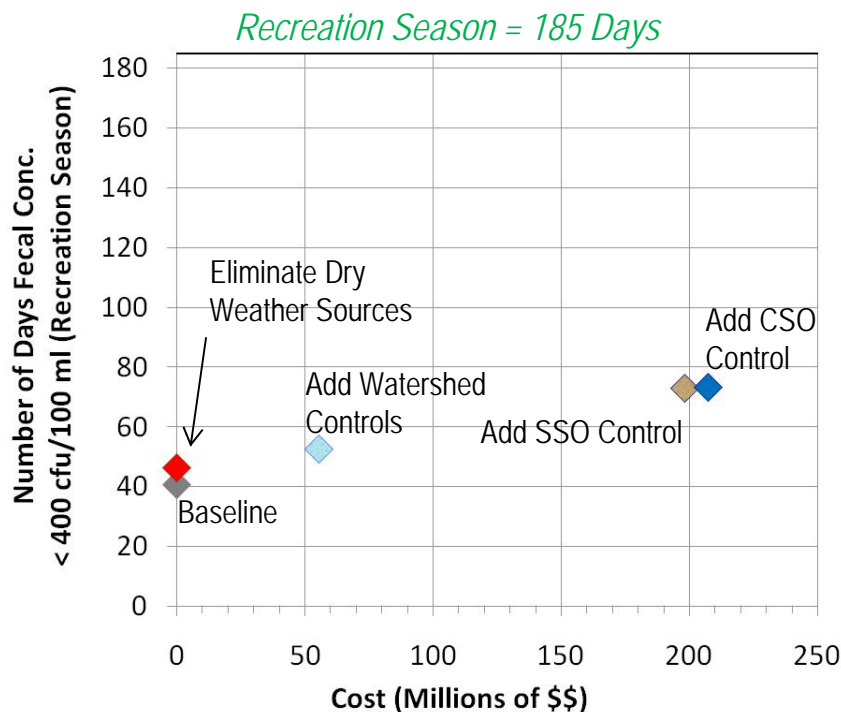
Watershed Approach: Benefit of Dry Weather Source Elimination, Watershed Controls, SSO, & CSO



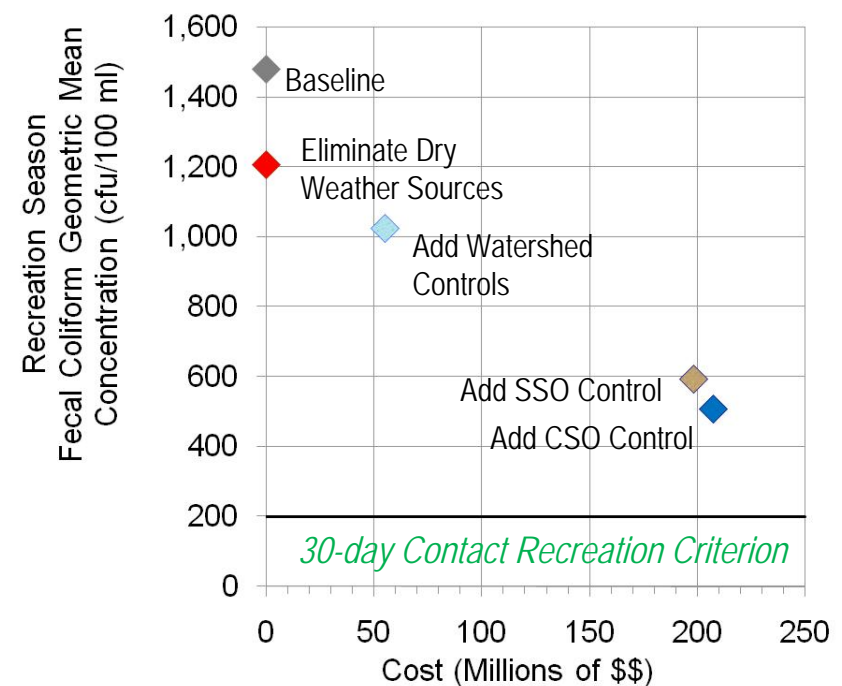
[1] BCWM is still under development, so all results presented here are for illustrative purposes. The results are subject to change and should therefore not be relied on or considered definitive.

Hypothetical Watershed Approach: Cost – Benefit of Source Controls near Mouth

Days of Recreation



**Average Fecal Concentration
(Geometric Mean)**



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Results Overview (Preliminary)

- Analysis based on future (2030) conditions
- Dry weather sources
 - Prevent standards from being met
 - Requires more investigation
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- Watershed controls
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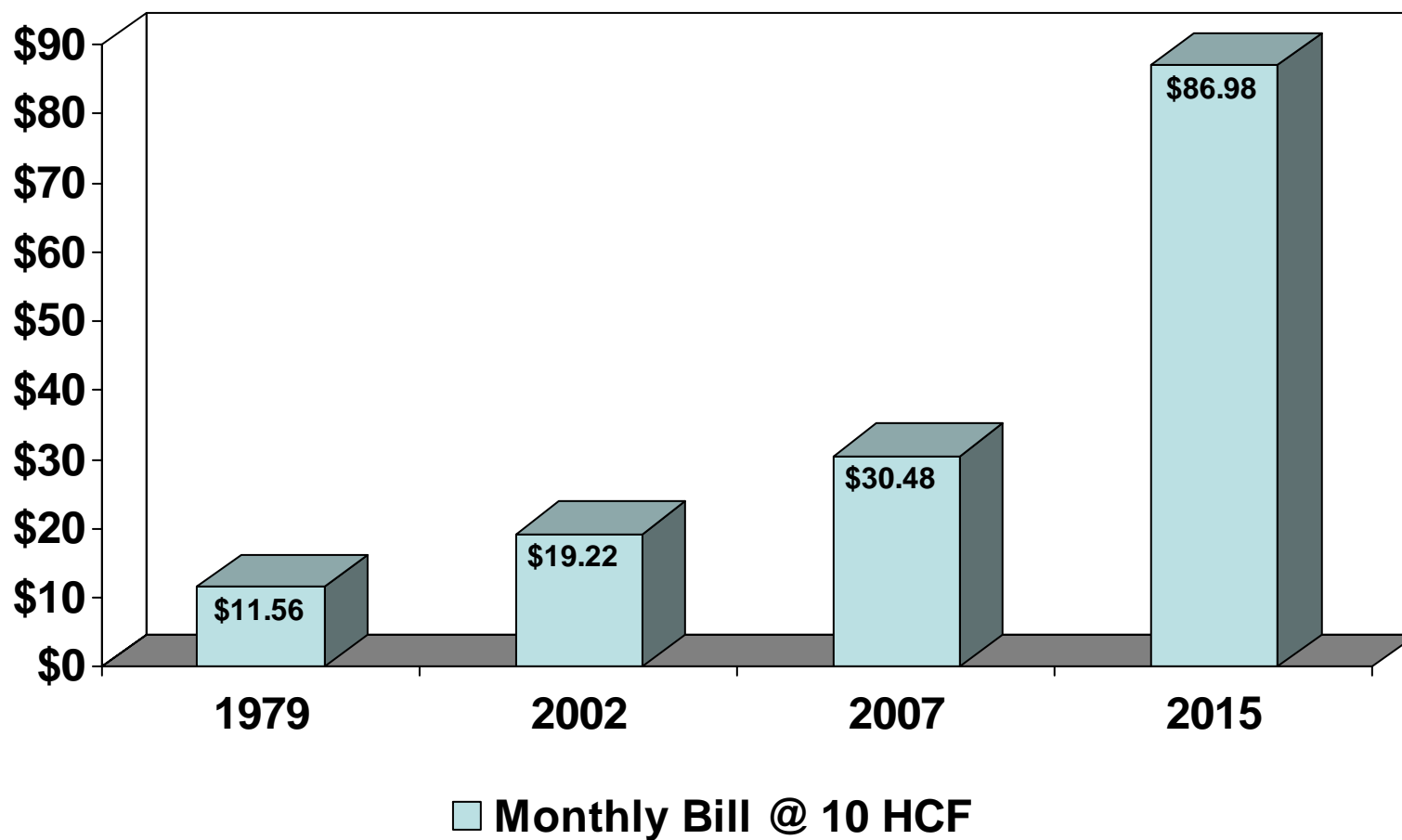
Financial Outlook

20-Year Projected Capital Budget

Estimated Total =

\$1.1 Billion

Rate History



Questions



Fowler Creek - Tributary to Banklick Creek